



# WILLIAM BECKER

Data scientist, policy consultant

## PROFILE

Innovative data scientist, policy analyst and researcher with a PhD and 13 years of experience leading research and consultancy projects for international organisations on topics ranging from sustainable development to globalisation.

Statistical software developer and researcher with ~30 academic publications (~2000 citations).

I love working with others to solve practical problems with cutting edge methods. I'm a lifelong learner who is eager to take on the next challenge.

## CONTACT

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 Via Veneto 175, Ispra (VA), Italy

## WORK EXPERIENCE

### Data science/policy consultant

*Oct 2020 – present, Ispra, Italy*

Statistical, software and data research for international organisations. Led projects from [client/stakeholder engagement](#) and [workshops](#) up to [web visualisation](#). Contracts include:

- Maintaining and uncertainty modelling of global GHG emissions database for European Commission (JRC)
- Full stack development of statistical web app for community-based protection data analysis for UNCHR
- Statistical analysis of European impact assessments for JRC
- Senior lead expert on Quality Infrastructure for Sustainable Development, United Nations Industrial Development Organisation.
- Trend analysis and development of bioeconomy monitoring framework for JRC
- Innovation modelling for the World Intellectual Property Organisation (Global Innovation Index)
- Development of [R package for composite indicators](#) for JRC + E- book
- Development of web app for prioritising interventions for the Foundation for innovative new [medical] diagnostics
- Update and revision of European Skills Index for CEDEFOP

### EC – Joint Research Centre: Policy analyst, researcher

*Feb 2011 – Mar 2020, Ispra, Italy*

Contractual agent (FGIV) and postdoctoral researcher leading data-driven projects supporting [European policy making](#) and tracking global trends for the European commission and international organisations.

- Research in [statistics](#) and [machine learning](#).
- Applications in sustainable development, globalisation, econometrics, impact assessment and a wide range of scientific computer models.
- Worked extensively with many different parts of the European Commission, European agencies, and other international organisations.
- Supervised junior staff members
- Led international training courses, summer schools

## LANGUAGES

English (native)  
Italian (fluent)  
Spanish/French/German (intermediate)

## INTERESTS

My non-professional interests include:

- Playing guitar
- Skiing
- Creative writing, storytelling
- Cooking
- Sustainable living: growing food + Repair Café founder in Italy
- Construction
- Hiking
- Swimming

## KNOW MORE

All my [projects](#), [publications](#) and a little more about [who I am](#) can be found at [www.willbecker.me](http://www.willbecker.me)

## EDUCATION

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### The University of Sheffield, UK

Nov 2006 – Feb 2011

PhD in [Mechanical Engineering](#) and applied machine learning and Bayesian stats. Thesis entitled: *Uncertainty propagation through large nonlinear models*.

- Built biomechanical model of a human heart valve + structural models of airships.
- Applied novel machine learning techniques for uncertainty analysis.
- Included one year as a visiting researcher in Turin, Italy.

### The University of Sheffield, UK

Oct 2002 – June 2006

MEng in [Mechanical Engineering](#) with Spanish. Included one year as an Erasmus student at the University of Seville, Spain. Modules including: Signal Processing, Condition Monitoring, Computer Modelling and Validation, Solar and Wind Energy, Nuclear Reactor Engineering and Spanish Foreign Languages at Work (FLAW) to level 4.

## ACADEMIC

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### Selected publications

Why so many published sensitivity analyses are false: A systematic review of sensitivity analysis practices [480 citations]

<https://doi.org/10.1016/j.envsoft.2019.01.012>

Weights and importance in composite indicators: Closing the gap [340 citations] <https://doi.org/10.1016/j.ecolind.2017.03.056>

Exploring ASEM sustainable connectivity: What brings Asia and Europe together? [flagship policy report] <https://dx.doi.org/10.2760/738153>

I have around [30 journal publications](#), as well as book chapters, conference papers, and many technical reports.

### Other

- Founder of international AESCON conference
- Scientific committee member of several conferences
- Keynote speaker in international conferences on sensitivity analysis and modelling
- Reviewer for 17 different journals
- Wide professional/academic network

## SKILLS

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### Technical

- Stats, ML, Bayesian methods
- R expert (package development, [shiny](#) apps)
- [Software development](#) (CI/CD, unit testing, Git, Github)
- [Matlab](#) (15+ yrs experience)
- [Python](#), [SQL](#)
- [Excel](#) + [power query](#), [MS Office](#)
- [LaTeX](#), [Markdown](#)
- Web dev. ([Hugo](#), [blogdown](#))

### Other

- Excellent communicator (written and verbal)
- Led and designed numerous training courses
- Client engagement
- Stakeholder consultation
- Project management
- Fast worker, both independently and in a team
- Quick to adapt and learn